

Exploring the Multiband Functionality of a Fractal Antenna Modeled After a Tree's Structure

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Abstract: *This article presents the design and analysis of a tree-shaped fractal antenna featuring U-shaped and W-shaped slots. The analysis of the proposed antenna is conducted using FR4 substrate material. In the ultra-wide band region, the proposed antenna demonstrates multiband characteristics. In order to acquire the path that radiates through the superposition of rectangular patches and a multiple-band operating frequency, the U-shaped and W-shaped openings on the patch must be enlarged. Utilizing a defected ground structure (DGS) on the ground plane so as to encompass the UWB application frequency range (3.1-10.6GHz) permits an enhancement in the impedance characteristics between adjacent frequencies.*

Keywords: Tree-shaped antenna, Fractal antenna design, Multiband characteristics.

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